

VTX Subassembly, Top Assembly, Installation and Integration Prep

TECHNICAL
SUPPORT
2010

Task	Due By	NOTES
VTX Installation Plan	Done	PHENIX Design & Engg
Installation Review (ESRC)	6/18/2010	Set up With Y. Makdisi
VTX Survey Plan	6/23/2010	Consult w/ F. Karl
Design fixtures, techniques and mockups for installation, alignment and survey	6/23/2010	PHENIX Design & Engg
Specify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	6/23/2010	PHENIX Design & Engg
Beampipe & VTX Installation Work Permits	6/23/2010	D. Lynch, CAD Safety Approval
4 th of July Holiday	7/5-7/6/2010	Enjoy the long weekend
BigWheel Fabrication & Procurement	7/15/2010	PHENIX, CS
Receive, inspect, test, rework and qualify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	7/15/2010	PHENIX Design & Engg
Fabricate/procure detail components for installation, support and alignment, including station 1 work platforms	8/31/2010	PHENIX Design & Engg, PHENIX Techs, CAD, Carpenters
Fabricate fixtures, techniques and mockups for installation, alignment and survey	8/31/2010	CS, PHENIX Techs
Receive & inspect components (installation, support, alignment & Survey)	9/15/2010	PHENIX Techs
Assemblies, Mock installations/alignments, bench tests	8/31/2010	PHENIX Techs
Cooling system procurement	9/30/2010	Pisani Coordinate with CAD Cooling Water, Electrician

6/17/2010

RPC3 Pre Shutdown Prep

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Prepare Installation Plan	Done	Done
Design Absorber Installation fixtures & tools	6/11/2010	PHENIX Engg & Design →
Receive purchased parts	6/4/2010 (Done?)	PHENIX Techs →
Fabricate PHENIX parts	6/15/2010	CS, PHENIX Techs →
Receive and inspect CS fabricated parts	6/15/2010	PHENIX Techs →
Prepare work permit for installation	Done	D. Lynch, CAD Safety Approval
Assemble, test and burn-in 1/2 octants	6/18/2010	RPC Factory →
Pre-Assemble base components at PHENIX	Done	PHENIX Techs
Fabricate Absorber Details	7/31/2010	RPC Group and PHENIX
Fabricate/procure Absorber Installation fixtures & tools	7/31/2010	CS, PHENIX Techs

6/17/2010

Start of Shutdown

PHENIX

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
DAQ Tests	Done	PHENIX
Purge Gas From Detectors	Done	PHENIX, CAD remove LOTO
End of Run 10	Done	☺
EOR Party	6/18/2010	Commando Grill Squad
Remove BP Collar	Done	Done
Move MMS south	6/18/2010	PHENIX Techs
Prep EC for move to EC	6/18/2010 (in progress)	PHENIX Techs
Close North and South BP gate valves and lock closed for until new BP is installed	Done?	CAD Vac Group
Open and disassemble wall	Done	Done
Remove EC ladder and fold platforms	Done	Carpenters & Riggers
Move EC to AH	In progress	PHENIX Techs
Install cart	6/25/2010	PHENIX Techs
Move Collars to AH	6/25/2010	PHENIX Techs
Install decking	6/25/2010	PHENIX Techs
Install Manlift	6/25/2010	PHENIX Techs
Remove RPC2 Prototype, support brackets, cabling & Piping	6/25/2010	PHENIX Techs, CAD Techs , Electrician
Remove MMS east vertical lampshade	6/25/2010?	CAD Techs

6/17/2010

Beampipe De-installation

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
4th of July Holiday & Floating Holiday	7/5&7/6/2010	Enjoy
Remove HBD's and HBD cables Remove RXNP's and cables	7/9/2010	PHENIX Techs ASAP
Remove MPC's	7/16/2010	PHENIX Techs ASAP →
Remove BBC's	7/16/2010	PHENIX Techs ASAP →
Position MMS for Vacuum break	7/19/2010	PHENIX Techs
Install Temporary supports for old BP	7/19/2010	Supports TBD →
Break vacuum on north side of MMS	7/19/2010	CAD Vac Techs
Remove south bellows	7/19/2010	CAD Vac Techs →
Move MMS north, remove spool and south3-5 transition	7/20/2010	PHENIX Techs
Move the MMS south & Prep MMS for move to AH	7/23/2010	Begin MMS prep with shutdown start →
Move CM south, remove north bellows	7/23/2010	PHENIX & CAD Vac Techs
Move old Be bp south into MMS and move CM north	7/23/2010	PHENIX Techs →
Move MMS to shutdown park position	7/23/2010	PHENIX Techs →
Remove old Be BP	7/23/2010	PHENIX Techs →
Move CM south and east	7/23/2010	PHENIX Techs →
Remove north 3 to 5 transition	7/23/2010	PHENIX Techs →

6/17/2010

New Beampipe installation

PHENIX

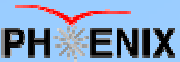
TECHNICAL REPORT NO-0

Task	Due By	NOTES
Prepare north 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	7/23/2010	PHENIX Techs & CAD Vacuum Techs
Prep CM North and South for Absorber and install	8/13/2010	PHENIX Techs
Install north 3 to 5 transition in MMN	8/13/2010	PHENIX Techs
Install new Be pipe in CM on temp supports	8/17/2010	PHENIX Techs
Move CM back to beamline & connect new Be BP to 1-5/8 transition and bellows and north 3-5 transition	8/17/2010	PHENIX TechsPHENIX Techs
Move CM to run position	8/18/2010	PHENIX Techs
Prealign Be/Alum pipe with transitions attached on new BP supports At MPC north, BBC south and north nosecone	8/19/2010	Surveyors & PHENIX Techs
Prepare south 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	8/19/2010	PHENIX Techs
Install south 3 to 5 transition, bellows and 1-5/8 to 3" transition in MMS	8/20/2010	PHENIX Techs
Move MMS back into IR on beamline	8/20/2010	PHENIX Techs
Move CM south, slide Transition assembly in MMS north and connect to new Be BP	8/20/2010	CAD Vac & PHENIX Techs
Move CM and MMS north and install south spool. Leak check. Move MMS South	8/27/2010	PHENIX Techs
Install temporary bakeout supports	8/27/2010	PHENIX Techs
Install bakeout blankets and monitoring	8/27/2010	CAD Vacuum Techs
Labor Day Lab Holiday	9/6/2010	Enjoy
Bakeout New BP and activate NEG coating	9/10/2010	CAD Vacuum Techs
Leak check BP	9/10/2010	CAD Vacuum Techs
Re-install MPC's & BBC's including Cables and services	9/24/2010	PHENIX Techs Concurrent
Move CM to run position	9/24/2010	PHENIX Techs
Final alignment of new BP	10/1/2010	PHENIX Techs

May be 1-2 week slide in this area

6/17/2010

VTX Installation, VTX Services and Electronics



TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Install and align VTX rail attachment hardware to CM	10/1/2010	PHENIX Techs Install during bakeout?
Install and align VTX rails parallel to beam line	10/8/2010	PHENIX Techs
Install and align VTX rails perpendicular to beam line	10/8/2010	PHENIX Techs
Install and align west half detector module	10/15/2010	PHENIX Techs & Survey
Install and align east half detector module	10/22/2010	PHENIX Techs & Survey
Install mechanical support structures for VTX services and electronics	10/29/2010	PHENIX Techs Concurrent Effort
Install Cable trays	10/29/2010	
Install racks	10/29/2010	
Install chiller	10/29/2010	
Install cables, plumbing	10/29/2010	
Connect cables and plumbing	10/29/2010	V
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Test and commission	12/1/2010	PHENIX Techs

6/17/2010

RPC3 South Prep, Early Shutdown

PHENIX TECHNICAL SUPPORT NO-0

Task	Due By	NOTES
Remove wiring, walkovers, FCAL and scintillator hardware that would otherwise interfere with installation	In Progress	PHENIX Techs →
4th of July Holiday	7/5 & 7/6	Enjoy →
Remove/relocate shielding	In Progress	Riggers →
Remove crystal palace & vapor barrier	6/25	CAD →
Inspect Gap 5 south for legacy items/problems	6/25	PHENIX Techs →
Address legacy items/problems as convenient prior to shutdown start	7/15	PHENIX Techs →
Install lighting & relocate sensors as necessary	7/15	Electrician →
Temporarily relocate, re-position or otherwise address interfering piping, cable trays	8/6/2010	PHENIX (w/ CAD Help?), Electrician →
Remove RPC prototype	8/6/2010	PHENIX/CAD Techs →
Pre-survey $\frac{1}{2}$ octant reference points	8/13/2010	PHENIX Techs & Surveyors →
Drill and tap $\frac{1}{2}$ octant and rotating piston mounting points	8/13/2010	PHENIX Techs →
Build/install access and work platforms for walk on top of MuID steel including stairs from MMS eyebrow	8/13/2010	Carpenters →
Final cleaning and prep of gap 5 for grouting	8/20/2010	PHENIX Techs →
Labor Day Lab Holiday	9/6/2010	Enjoy →
Pre-installation orientation meeting with masons and riggers	8/20/2010	PHENIX Techs Masons & Riggers →
Position lifting equipment in tunnel	8/27/2010	Riggers →
Move east and west base structures into south tunnel and assemble on east and west sides of pedestal respectively. Include translation control fixtures	8/27/2010	Riggers & PHENIX techs →

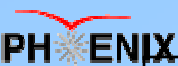
Want to accelerate these items, if possible

so that

we can get to these items as soon as possible.

6/17/2010

RPC3 South Installation



TECHNICAL SUPPORT 2010

Task	Due By	NOTES
Install and align base structures on east and west sides of gap 5	9/3/2010	PHENIC Techs & Riggers
Prepare for grouting	9/3/2010	PHENIC Techs & Masons
Install grout	9/3/2010	PHENIC Techs & Masons
Install pitch control rails on pedestal and gap 5 east & west inner walls	9/3/2010	PHENIC Techs
Install upper suspension support hardware	9/3/2010	PHENIC Techs
Install $\frac{1}{2}$ octants, 2 at a time in accordance with work plan/work permit	10/1/2010, sooner is better	Riggers & PHENIX Techs
<i>Transport $\frac{1}{2}$ octants 2 at a time from RPC factory to south tunnel on angled transport carts</i>		
<i>Transfer $\frac{1}{2}$ octants from angled transport carts one at a time to temporary free standing and re-orienting roller fixture (fore and aft wheels and axel)</i>		
<i>Lift (and re-orient if appropriate) $\frac{1}{2}$ octant and install into base structure, previously installed $\frac{1}{2}$ octant or upper suspension hardawre as appropriate per work plan</i>		
<i>Pre-align each $\frac{1}{2}$ octant as installed</i>		
<i>Perform electrical integrity tests before proceeding to next pair of $\frac{1}{2}$ octants</i>		
<i>After all $\frac{1}{2}$ octants are in place and tested, join east and west halves of full south station 3 detector and align to survey markers</i>		

6/17/2010

RPC3 South Integration

TECHNICAL SUPPORT NO. 0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Final survey	10/8/2010	Surveyors
Install new cable trays and piping supports	10/15/2010	Electrician, PHENIX Techs earlier if possible
Re-install MuID wiring and pipes	11/5/2010	PHENIX Techs
Install south thermal/vapor barrier	11/19/2010	CAD contractor
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Re-install MuID gas rack	11/30/2010	PHENIX Techs
Commissioning and final acceptance tests	11/30/2010	RPC Group
Install RPC3 HV, LV and signal wiring and gas lines	11/30/2010	PHENIX Techs
Install RPC3 South gas distribution rack	11/30/2010	PHENIX Techs
Re-install shielding	11/30/2010	Riggers
Install RPC3 South environmental controls (heaters and thermostats)	11/30/2010	Electrician

We want to get this task started immediately after last $\frac{1}{2}$ octant is installed, so we can finish no later than this date

Shutdown 2010 Other Work

TECHNICAL SUPPORT 2010

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
Gas Pad expansion completion (grouting)	6/30/2010	Tasks TBD
RPC3 North unfinished business	7/15/2010	Electronics and cabling, grounding issues, environmental controls
MuTrigger FEE unfinished business	7/15/2010	MMS cable trays,
RHIC Summer Sunday Tour	8/8/2010	During bakeout
DC/PC maintenance/repair (after EC is in)	11/15/2010	FEM and wire troubleshooting and repairs, major efforts will require longer shutdown
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
PHENIX Survey Review	11/30/2010	PHENIX Techs & Survey
Procedure Updating	11/30/2010	PHENIX Engineering
FVTX support	11/30/2010	As required
FoCal	11/30/2010	As required
Gas Mixing House maintenance & Repair	11/30/2010	Tasks TBD
PHENIX Infrastructure maintenance, repair, upgrade	11/30/2010	TBD
Gas Pad: new gas storage details	11/30/2010	Tasks TBD
Gas Pad services for new dewar support, maintenance and improvements	11/30/2010	TASKS TBD

Shutdown 2010 Other Work (Cont'd)

TECHNICAL SUPPORT 2010

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
AH Flood prevention improvements	11/30/2010	Tasks TBD
IR Bridge Electrical service upgrade	11/30/2010	Support for 4 full racks in 2010, 4 more (8 total) in future, PHENIX Techs & Electrician
RPC Factory Support	11/30/2010	Tasks TBD
Rack Room upgrade	11/30/2010	Tasks TBD
PHENIX Design Documentation	11/30/2010	PHENIX Engineering
CM Crane	11/30/2010	Tasks TBD
CM alignment stops	11/30/2010	TBD
Gas System maintenance, repair, upgrade	11/30/2010	Tasks TBD
Other subsystem maintenance, repair/upgrade	11/30/2010	Tasks TBD
Future upgrade support	11/30/2010	RPC1, FVTX, FOCaI, other Tasks TBD
Prepare for Run 11: EC platforms fold up in AH, fold down in IR, EC Equipment lift take down in AH, Install in IR, Install shielding wall base and build shielding wall & Install MMS Lampshade	11/30/2010	Normal end of shutdown tasks, typically taking 3-4 weeks: Riggers & Carpenters, CAD Techs
Run 11 Start	12/1/2010	
End of Shutdown Party	~12/3/2010	

2010 Building Maintenance Issues

TECHNICAL SUPPORT NO-0

- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall and over door between control room and elect. ass'y room.
- General maintenance for Trailer Offices (in progress)
- Trailer Office Modifications planning in progress (new exterior siding)
- Roof leaks in laser room and IR (southeast corner)
- Flooding in AH/ Driveway heaving [Lake PHENIX]



Progress?



6/17/2010